

CHAMPION
Baseball
SEGA

W I C O[®]

• T H E • S O U R C E •TM

CONVERSION KIT

72-392600

**TECHNICAL
MANUAL**

CHAMPION BASEBALL™ CONVERSION KIT

72-392600 PARTS LIST

Before proceeding any further, check over your kit to see that all parts are present. Also familiarize yourself with them. It would also help to read over this Conversion Kit Installation Manual.

Qty.	Description	Part No.
1	P.C. Board Set	23-520100
1	P.C. Board Case (Top)	55-169300
1	P.C. Board Case (Bottom)	55-169400
1	Set. Cabinet Graphics (Marquee, Control Panel & Cabinet Sides)	26-329300
8	Pushbuttons (Long) — RED (2)	15-921301
	YELLOW (2)	15-921601
	BLUE (2)	15-922501
	WHITE (2)	15-921001
8	Pushbutton Holders & Switches	15-098101
8	Pal Nuts	19-025401
2	#6 × ¾" Pan Head Phillips Wood Screws	30-313500
4	#6 × 1" Pan Head Phillips Wood Screws	30-313600
1	#6 × ¾" Pan Head Phillips Sheet Metal Screw	30-161200
1	Electronics Cable Assembly	98-027900
1	Kit Manual	28-080800

WARNING

NEVER replace any components with anything other than exact replacement parts.

NEVER remove circuit board connections while power is on.

DO NOT replace fuses with anything other than the proper value. A blown fuse indicates an overload condition within the game. Replacing fuses with a higher value can cause severe damage to internal components if an overload occurs.

ALWAYS consult this manual before attempting repair or replacement of components.

SPARE PARTS will be maintained at WICO Corporation for a period of 5 years after date of manufacture of conversion kit.

USER INFORMATION

WARNING

F.C.C. REGULATION COMPLIANCE

The P.C. Board Cage supplied with this Conversion Kit must be utilized and terminated to ground at the time of installation.

This is to avoid radio frequency radiation and comply with the limits for a Class "A" computing device pursuant to Sub-Part "J" of Part 15 of F.C.C. Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference — in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

INTRODUCTION

This manual will provide you with adequate information to convert your old game to *CHAMPION BASEBALL™* as simply and as quickly as possible.

This manual is intended for the use of SERVICE TECHNICIANS who possess a general working knowledge of solid-state circuitry and video monitor theory. Anyone **NOT** knowledgeable in these areas **SHOULD NOT** attempt to mount this conversion kit.

To install this kit you will need the following tools:

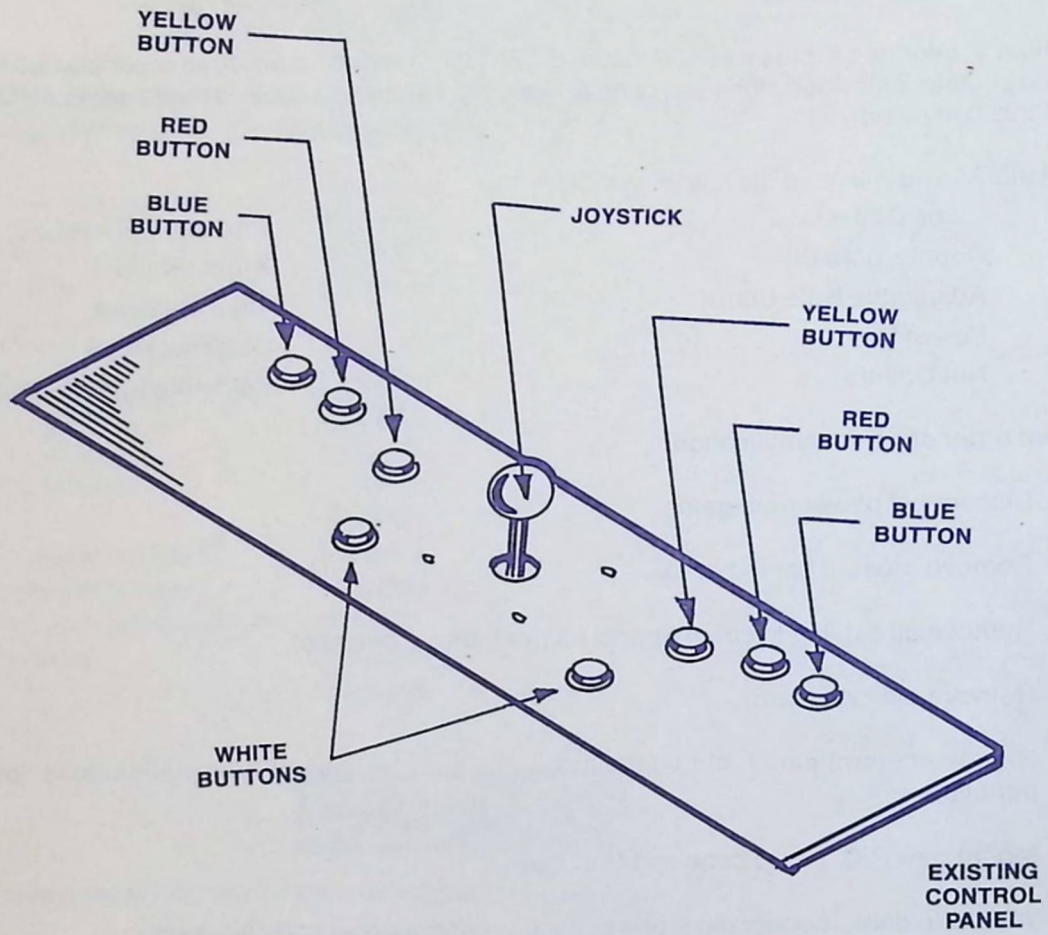
Large Drill Bits
Counterbore Bit
Adjustable Hole Cutter
Power Drill
Nut Drivers

Channel-Lock Pliers
X-Acto Knife
Tape Measure
Diagonal Pliers
Soldering Iron, Solder, etc.

Suggested order of game modification:

1. Disconnect power from game.
2. Remove present game boards.
3. Remove all cabling to control panel (check game schematic).
4. Remove old logic cards.
5. Remove control panel, old pushbuttons and controls. Mount new pushbuttons, joystick and control panel cover.
6. Mount new P.C. board cage and P.C. boards.
7. Wire coin door, monitor plug, power supply, control panel and speakers.

CONTROL PANEL LAYOUT



GAME CONCEPT

CHAMPION BASEBALL™ may be played by one or two players. Each player plays against the game computer both offensively and defensively. When two players play, they alternate innings until the computer outscores the player, thereby ending play.

To begin play, the player uses the joystick to select any one of twelve teams they wish to be. After selection he presses the RED BUTTON on the CONTROL PANEL to lock in his selection. Using the JOYSTICK, the player moves his BATTER up to the PLATE and awaits the PITCH. Pushing the RED BUTTON swings the BAT. The PITCHER can "throw" CURVEBALLS, FASTBALLS and CHANGE-UPS. BALLS, STRIKES or BEING HIT by a PITCH can also occur. The player can BUNT by quickly pushing the RED BUTTON. Any HIT automatically starts the BATTER running toward FIRST BASE. A BASE RUNNER may attempt to advance further than normal by pressing the RED (Run) BUTTON. A BASE RUNNER may be returned to a previous base by pressing the YELLOW (Run Back) BUTTON, though the RUNNER may be caught in a "PICKLE PLAY" between DEFENDERS.

The OFFENSIVE PLAYER has some options at his disposal. By pressing the YELLOW BUTTON with a RUNNER on base, he may attempt to "STEAL" either second or third base. This may be tried **ONLY** between pitches. Once the YELLOW BUTTON is pressed, the runner is committed and **CANNOT** return to the previous base.

Another option the PLAYER has is a "LINE-UP CHANGE." He first presses the BLUE BUTTON between pitches. A substitute players list will appear showing their batting averages and indicating right or left-handed batter. The PLAYER selects his substitute player by using the JOYSTICK. Pressing the BLUE BUTTON a second time puts the "PINCH HITTER" in the BATTERS BOX. This may be done only once per inning.

The DEFENSIVE PLAYER (when playing against the computer) has things to do also. The RED BUTTON "THROWS" the PITCH. It also "THROWS" the BALL from one defensive player to another. He must use the JOYSTICK to determine what BASE to "THROW" to. Move the JOYSTICK to the LEFT for FIRST BASE, DOWNWARD for SECOND BASE, to the RIGHT for THIRD BASE, and UPWARD for HOME PLATE. The FIELDER will not "THROW" the ball until the RED BUTTON is pressed. So to attempt "DOUBLE PLAYS" and "PUT-OUTS" on attempted steals, the DEFENSIVE PLAYER must react quickly with both the JOYSTICK and the RED BUTTON.

By using the BLUE BUTTON the DEFENSIVE PLAYER may substitute PITCHERS in the same way a "PINCH HITTER" was put into the game.

On the right side of the "SPLIT SCREEN" the DEFENSIVE PLAYER can control his PITCHERS lateral position on the MOUND by using the JOYSTICK. He can also control putting inside or outside curves on the PITCH by using the JOYSTICK. Pressing the RED BUTTON "PITCHES" the BALL. Once hit, the nearest FIELDER will move to the BALL.

All normal baseball rules apply; four balls is a WALK, three strikes for an OUT, three outs to an INNING. A hit ball that bounces into the "CROWD" is a "GROUND RULE" DOUBLE. A HOME RUN "SCORES" the BATTER and any RUNNERS on BASE at the time. Points are scored for various PLAYS and hits as follows:

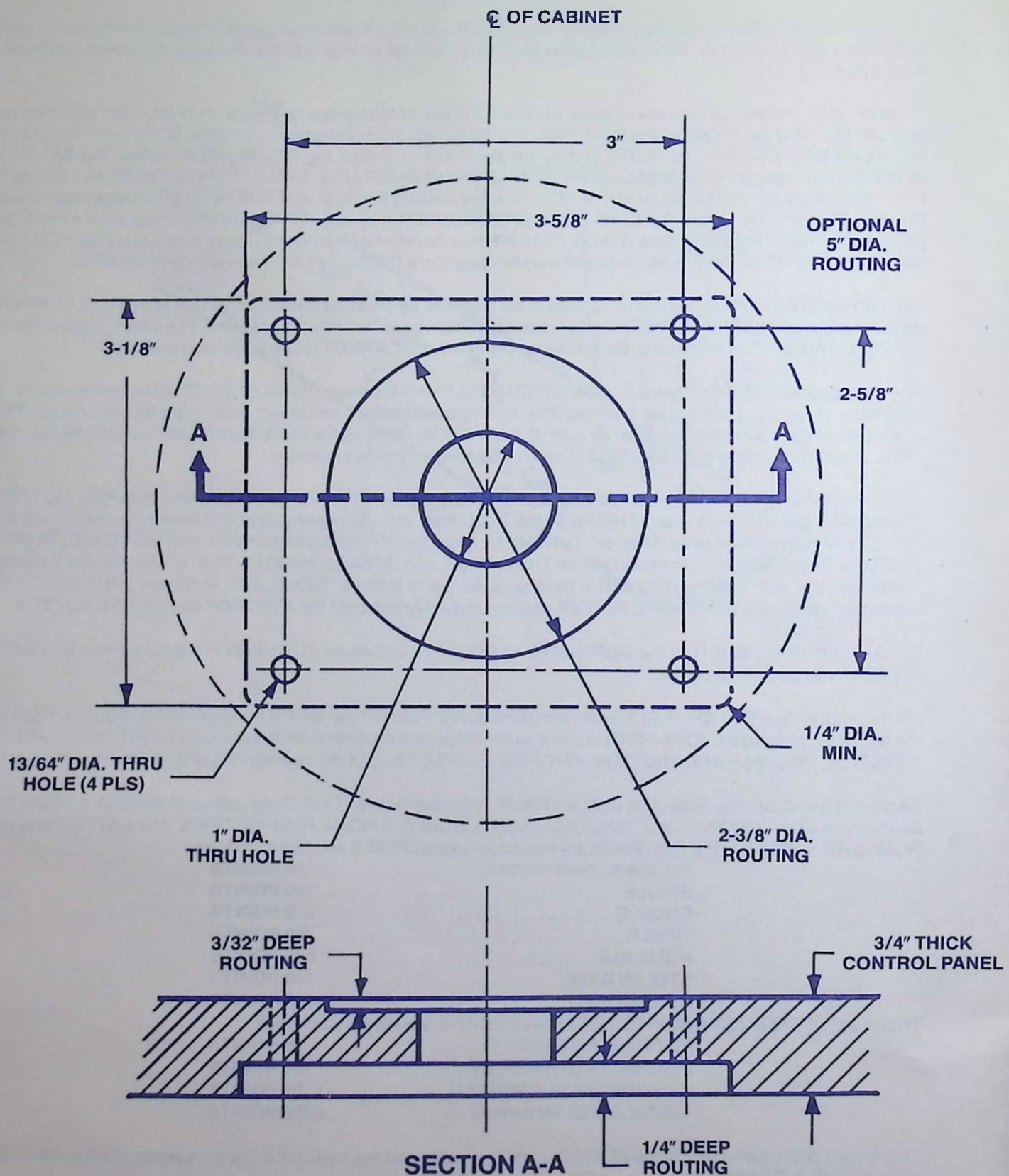
HIT (Contact with the ball)	10 POINTS
SINGLE	100 POINTS
DOUBLE	200 POINTS
TRIPLE	300 POINTS
HOME RUN	500 POINTS
STOLEN BASE	100 POINTS
RUN SCORED	1,000 POINTS

These are all OFFENSIVE POINTS. DEFENSIVE POINTS are scored as follows:

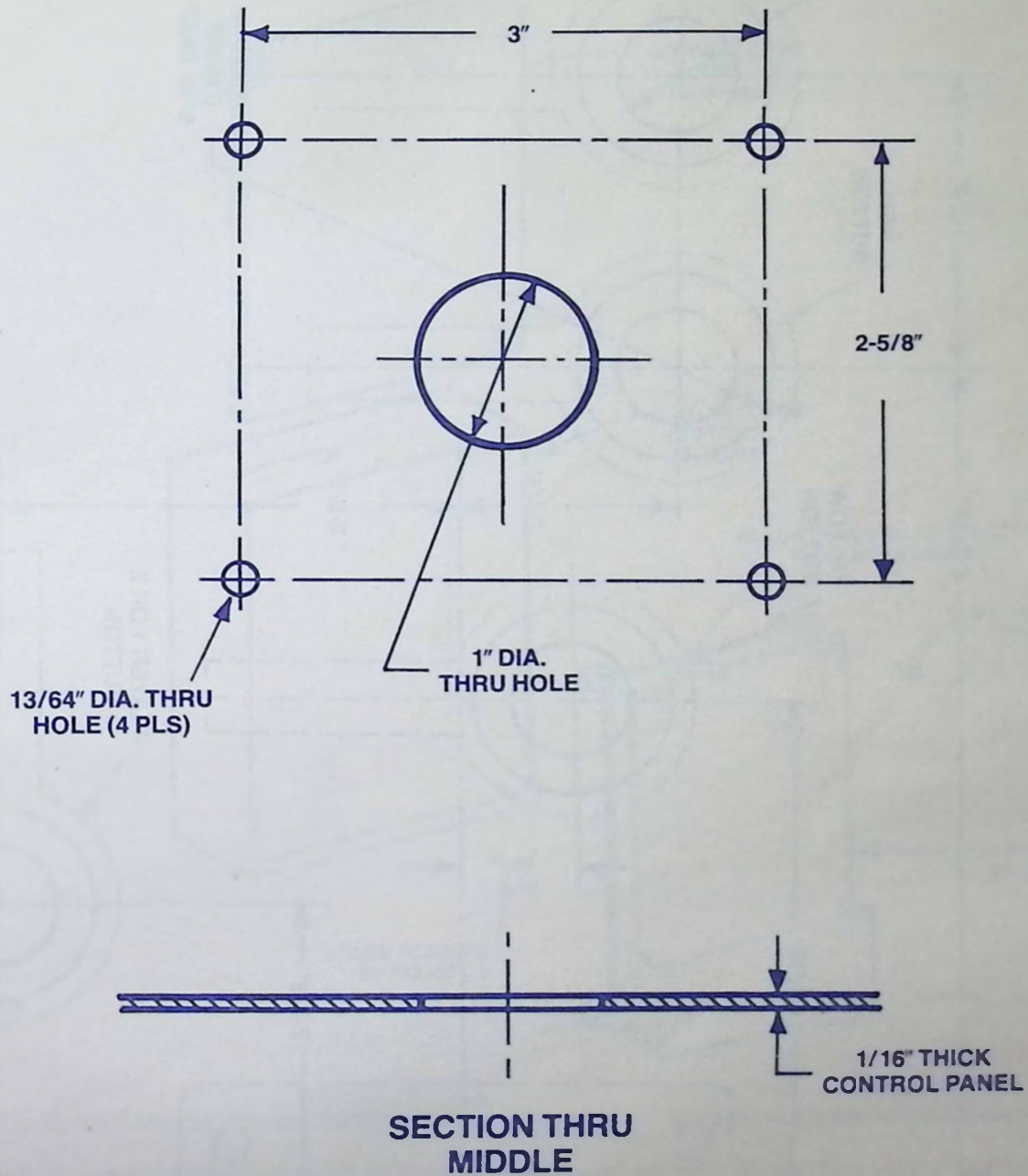
PITCHING A STRIKE	20 POINTS
PITCHING A STRIKE-OUT	100 POINTS
THROWING A RUNNER OUT	50 POINTS
COMPLETING AN INNING	1,000 POINTS

The winner of the game, either the PLAYER or the computer, and the continuation of the game still depends on the amount of RUNS SCORED.

JOYSTICK MOUNTING TEMPLATE WOOD CONTROL PANEL

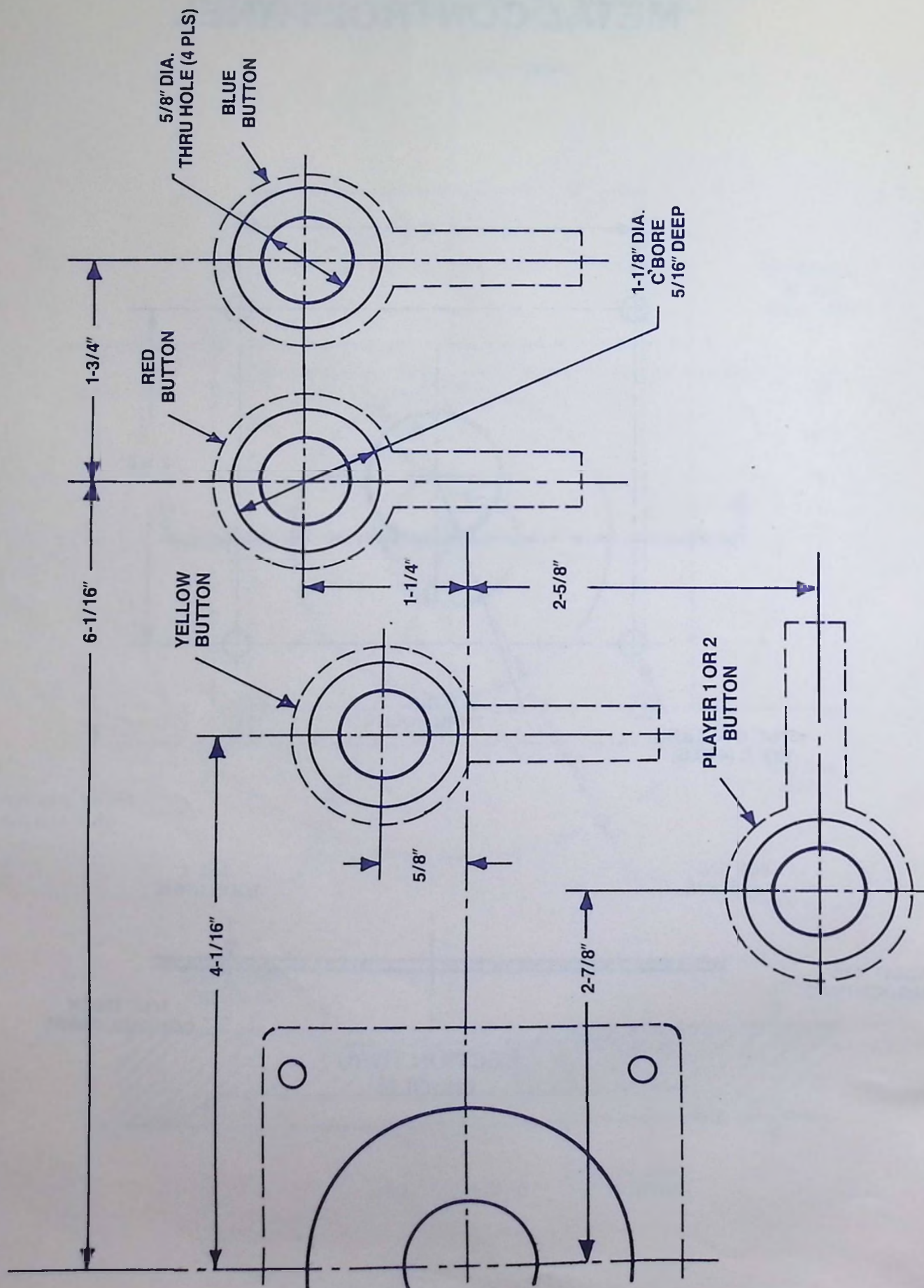


JOYSTICK MOUNTING TEMPLATE METAL CONTROL PANEL

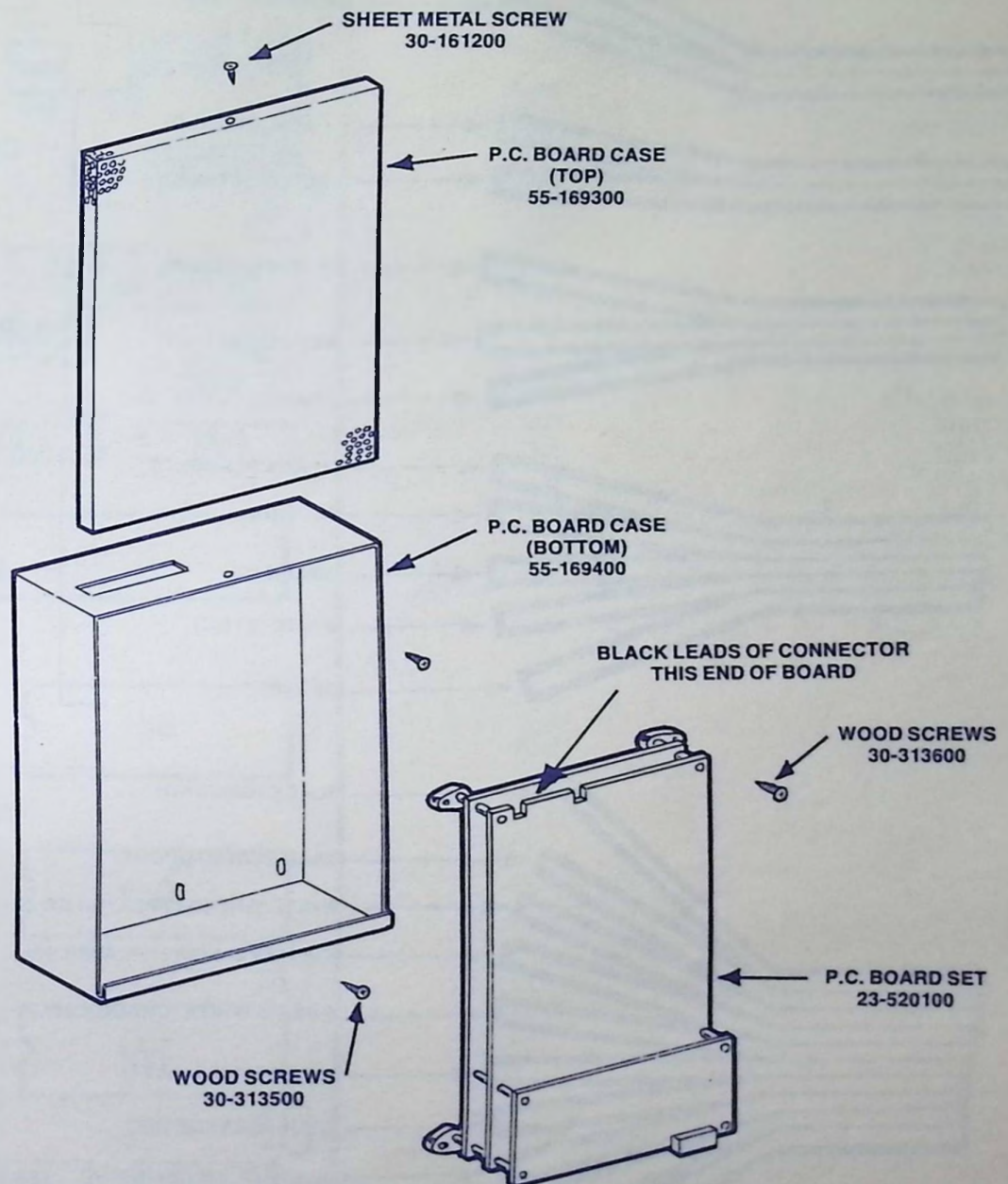


CONTROL PANEL LAYOUT TEMPLATE

OF CABINET

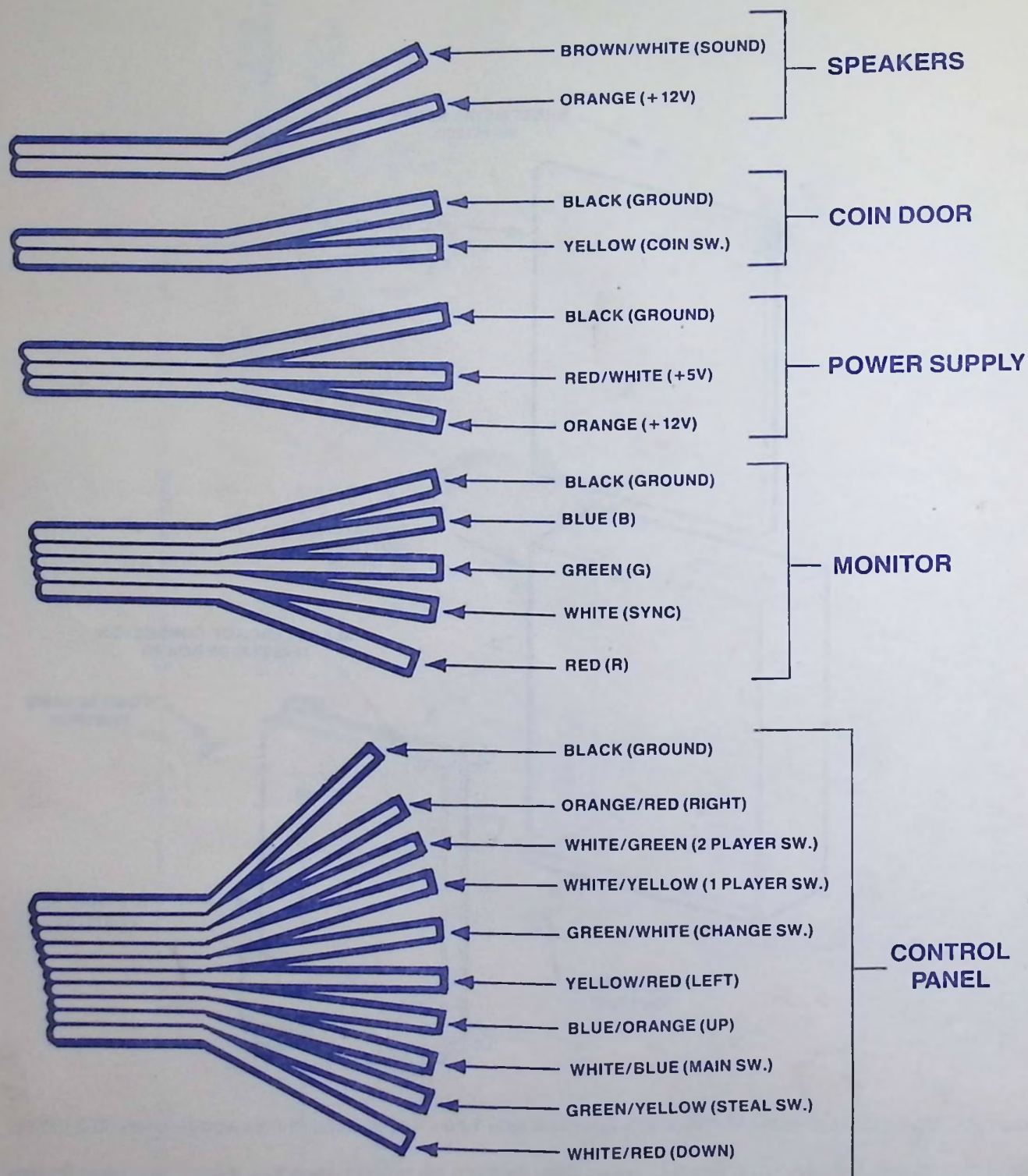


P.C. BOARD MOUNTING

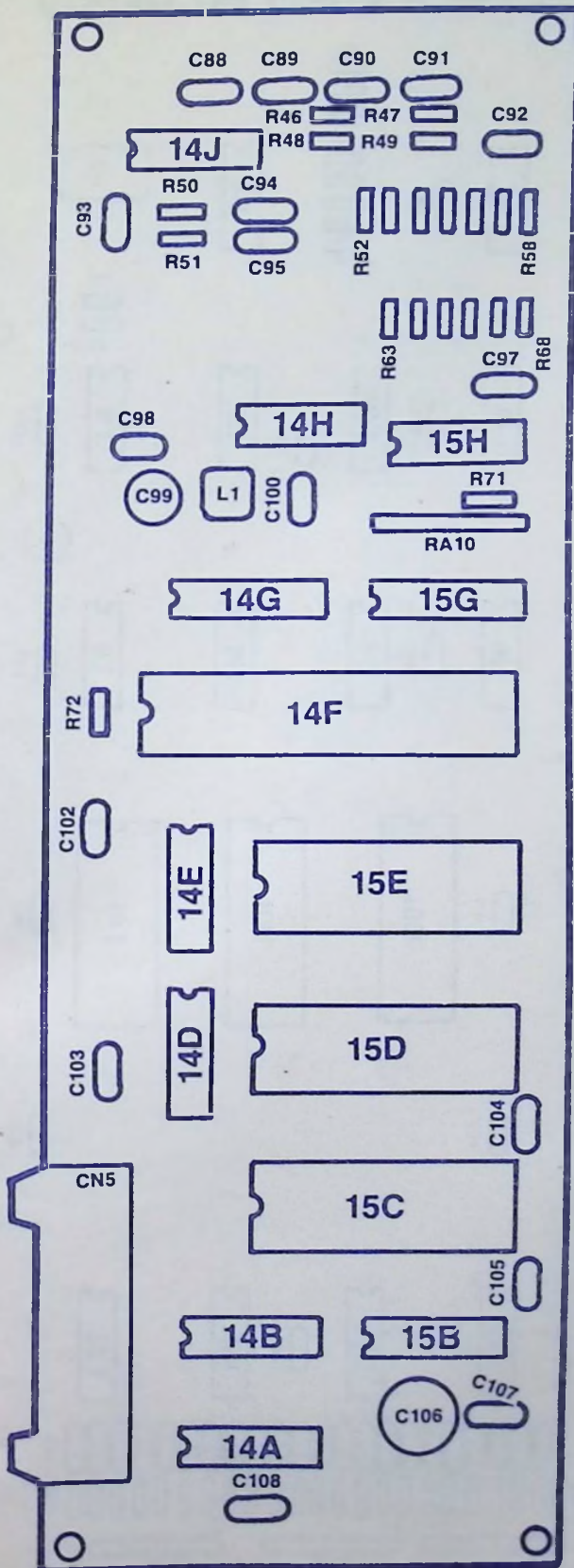


- A. Mount P.C. Board Case (bottom) 55-169300 to cabinet using two #6 $\times$ $\frac{3}{4}$ " pan head Phillips wood screws 30-313500.
- B. Mount P.C. Board Set 23-520100 into P.C. Board Case (bottom) 55-169300 using four #6 $\times$ 1" pan head Phillips wood screws 30-313600.
- C. Slip bottom edge of P.C. Board Case (top) 55-169300 under bottom lip of P.C. Board Case (bottom) 55-169300, use one #6 $\times$ $\frac{3}{8}$ " pan head Phillips sheet metal screw 30-161200, to secure.
- D. This unit may be mounted either vertically or horizontally, depending on the availability of space in your game cabinet.

CABLE HARNESS TERMINATIONS



SOUND BOARD



Des.

Number

14A	.....	SN74LS173AN
14B	.....	SN74LS173AN
14D	.....	SN74LS366AN
14E	.....	SN74LS138N
14F	.....	Z80A-CPU-D
14G	.....	MN2114-2
14H	.....	74LS00
14J	.....	MB3614

15B	.....	SN74LS173AN
15C	.....	M5L2764K
15D	.....	M5L2764K
15E	.....	M5L2764K
15G	.....	MN2114-2
15H	.....	MSM40174RS

CPU BOARD

R3
R4
R5
R6
R7
R8
R9
R10

C30

R14
D1

C37

8 I

C38

9 I

C43

C48

10 I

C52

12 I

C55
R17

7 H

8 H

9 H

10 H

12 H

C36-1

C42

C47

C54

7 F

8 G

9 G

10 G

12 G

C29

C36-2

C41

C46

C51

7 E

8 E

9 E

10 E

12 E

12 F

RA8

R3
R4
R5
R6
R7
R8
R9
R10

C29

C36-2

C42

C47

C51

7 F

8 G

9 G

10 G

12 G

12 F

RA8

7 D

8 D

9 D

10 D

12 D

12 E

RA9

C28

C34

C40

C45

C50

C53

C55

RA4

7 C

8 C

9 C

10 C

12 C

12 B

RA3

C27

C31

C38

C44

C49

C83

C87

VR2

7 B

8 B

9 B

10 B

12 B

12 C

RA2

C26

C30

C35

C41

C46

C51

C56

RA1

7 A

8 A

9 A

10 A

12 A

12 B

RA0

C25

C29

C34

C40

C45

C50

C55

RA0

7 A

8 A

9 A

10 A

12 A

12 B

RA0

C27

C31

C38

C44

C49

C83

C87

VR2

CN4

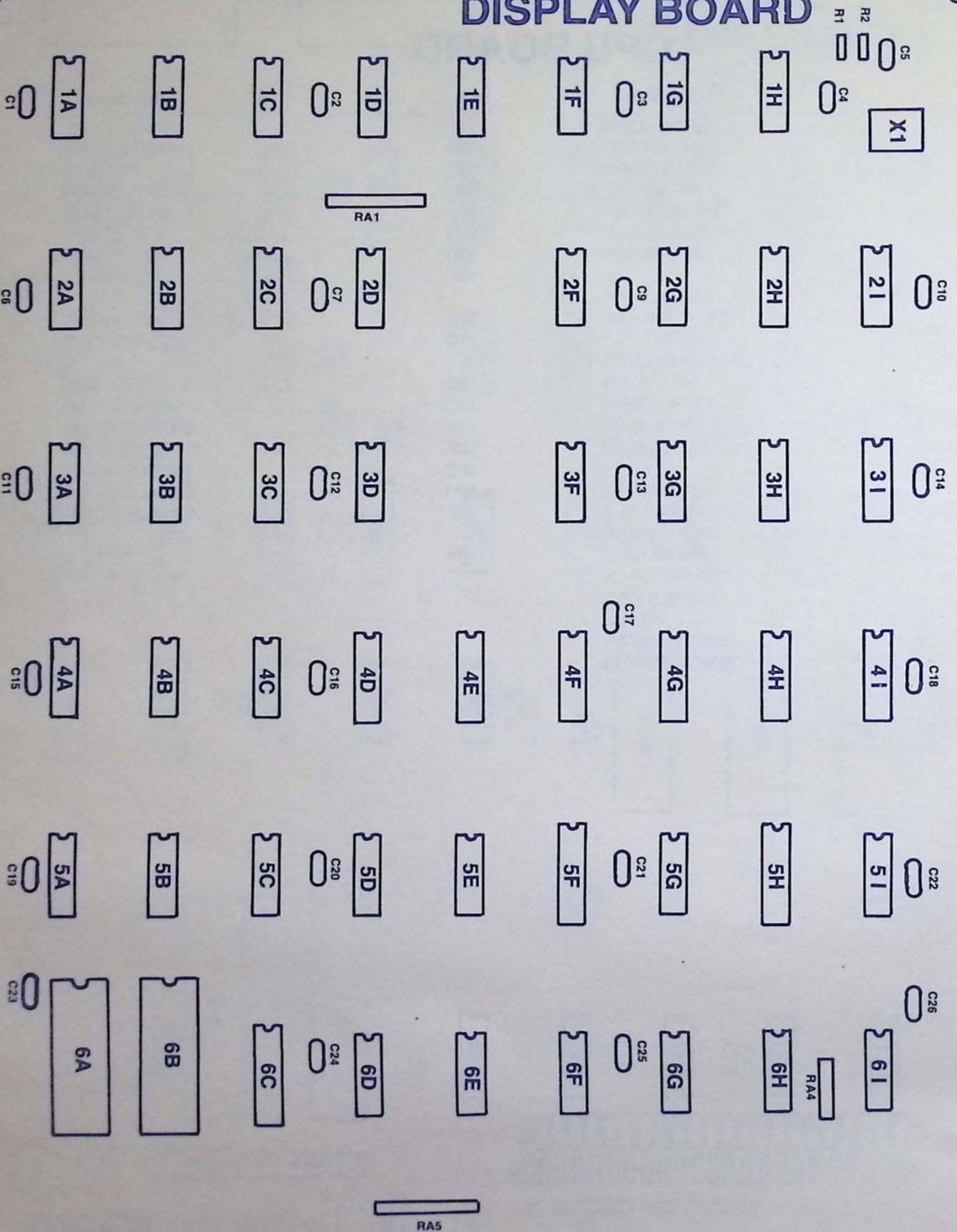
CN3

CPU BOARD

Des.	Number
7A	SN74LS32N
7B	M74LS00P
7C	SN74LS161AN
7D	M74LS00P
7E	MB74LS365A
7F	SN74LS366AN
7H	TBP189030N
8A	HD74LS08P
8B	SN74LS366AN
8C	MB74LS27
8E	MB74LS365A
8F	SN74LS366AN
8G	SN74LS259N
8H	M74LS00P
8I	HD74LS32P
9A	MN2114-2
9B	MN2114-2
9C	SN74LS74AN
9D	MB74LS245
9E	SN74LS74AN
9F	SN74LS139N
9G	74LS42
9H	SN74LS367AN
9I	SN74LS367AN

Des.	Number
10A	MB74LS245
10B	MB74LS245
10C	74LS157
10D	M74LS157P
10E	M74LS157P
10G	M5L2764K
10H	M5L2764K
10I	M5L2764K
11B	AY-3-8910
11C	Z80A-CPU-D
12B	HD74LS32P
12C	SN74LS374N
12E	SN74LS367AN
12F	SN74LS367AN
12G	SN74LS367AN
12H	SN74LS367AN
12I	SN74LS367AN
13A	MB3713

DISPLAY BOARD



DISPLAY BOARD

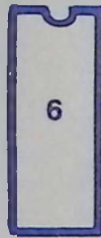
Des.	Number
1A	D2125A-2
1B	D2125A-2
1C	SN74LS161AN
1D	SN7489N
1E	SN74LS367AN
1F	SN74LS74AN
1G	.74LS107
1H	SN74LS366AN
2A	D2125A-2
2B	D2125A-2
2C	SN74LS161AN
2D	SN7489N
2F	SN74LS74AN
2G	.74LS04
2H	SN74LS161AN
2I	SN74LS161AN
3A	SN74LS375N
3B	.74LS174
3C	MB74LS283
3D	MB74LS283
3F	HD74LS08P
3G	MB74LS10
3H	SN74LS161AN
3I	SN74LS161AN

Des.	Number
4A	SN74LS86N
4B	SN74LS86N
4C	MB74LS20
4D	MN2114-2
4E	MN2114-2
4F	MN2114-2
4G	MN2114-2
4H	MN2114-2
4I	MN2114-2
5A	.74LS08
5B	M74LS157P
5C	M74LS00P
5D	SN74LS194N
5E	TBP24910N
5F	SN74LS377N
5G	.74LS02
5H	MB74LS245
5I	.74LS139N
6A	M5L2764K
6B	M5L2764K
6C	SN74LS273N
6D	SN74LS194N
6E	M74LS157P
6F	MB74LS158
6G	M74LS157P
6H	.74LS139N
6I	SN74LS138N

EPROM LOCATIONS

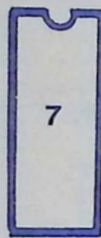
VOICE
BOARD

EPROM



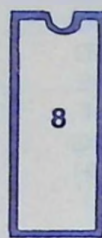
6

EPROM



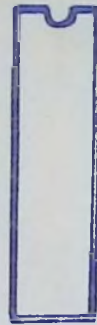
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EPROM

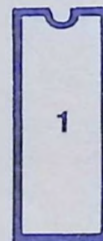


8

Z-80A

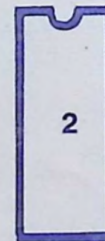


EPROM



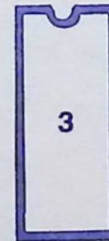
1

EPROM



2

EPROM



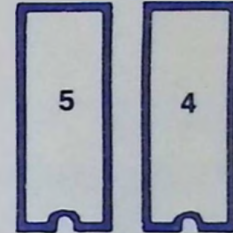
3

CPU
BOARD

EPROM LOCATIONS

DISPLAY
BOARD

EPROM EPROM



5E



MB
7025

Edge-Connector "Pin-Outs"

GND	1A	1B	GND
GND	2A	2B	GND
	3A	3B	
SOUND OUT	4A	4B	
+ 12V	5A	5B	+ 12V
	6A	6B	
	7A	7B	
1P RIGHT	8A	8B	1P LEFT
+ 5V	9A	9B	
	10A	10B	1P UP
	11A	11B	1P MAIN SW
2P START	12A	12B	1P STEAL SW
1P START	13A	13B	COIN 1
1P CHANGE SW	14A	14B	1P DOWN
	15A	15B	RED
BLUE	16A	16B	
GREEN	17A	17B	
SYNC	18A	18B	

		DIP-SWITCH S I							
		1	2	3	4	5	6	7	8
COIN SELECT	2 COIN — 1 PLAY	OFF	OFF						
	1 COIN — 1 PLAY	ON	OFF						
	1 COIN — 2 PLAYS	OFF	ON						
	1 COIN — 3 PLAYS	ON	ON						
MONITOR REVERSE (TO BE CONSISTENT WITH MONITOR)				ON OFF					
DEMO VOICE	YES				ON				
	NO				OFF				
UPRIGHT						ON			
TABLE						OFF			
LEVEL OF DIFFICULTY	DIFFICULT						ON		
	EASY						OFF		
1 COIN FOR BOTH 1 AND 2 PLAYERS								ON	

See

WICO®

• THE SOURCE • T.M.

6400 W. GROSS POINT ROAD • NILES, ILLINOIS 60648

For Replacement Parts

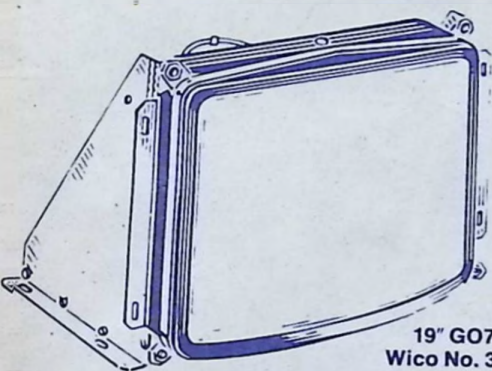
ELECTROHOME DISPLAY MONITORS

GO7 SERIES 13" & 19" R.G.B. COLOR

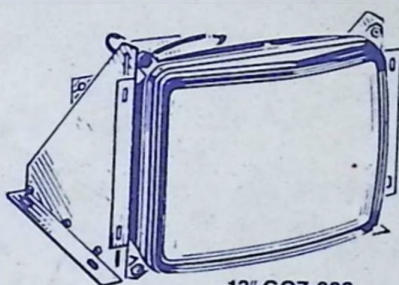
The GO7 Series of Color Display Monitors is available with precision in-line 13-inch and 19-inch CRT formats. Each is designed to meet the high reliability and performance standards common to the video games industry.

HORIZONTAL MOUNTING ONLY

Ref. No.	Description	Wico No.
38-GO7-902-00	13" R.G.B. Color	36-0123
38-GO7-904-00	19" R.G.B. Color	36-0124



19" GO7-904
Wico No. 36-0124



13" GO7-902
Wico No. 36-0123

ISOLATION TRANSFORMER

ISOLATION TRANSFORMER

Isolates monitor from AC line to reduce shock hazard.
Protects equipment.

Input Volts: 115VAC

Output Volts: 115VAC

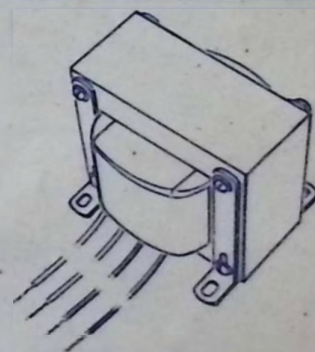
150 VA Rated.

2 Primary & 2 Secondary wire leads, 6½" long.

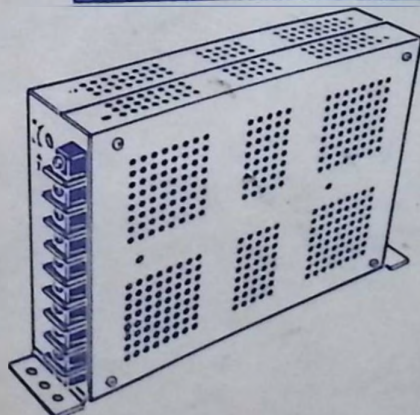
Mounting Centers: 3-1/8" x 2-3/4."

Four Mounting Slots: 7/32" x 3/8."

Wico No. 22-1022



3-OUTPUT SWITCHING D.C. POWER SUPPLY



3-Output Switch-Mode D.C. Power Supply Designed for Video Game/Microprocessor Use
+5V/5A (Max. 7A), -5V/1A, +12V/1A. Input A.C. Voltage 90-130VAC

- U.L. Listed
- Steps down AC voltage from 110V to operate within specified range.
- High Efficiency/Low Cost
- Latest PWM IC regulated design.
- Fully enclosed packaging — All aluminum cover.
- Soft-start.
- Foldback current limit on 5V main output.
- Auxiliary output short-circuit protection.
- 4 hours burn-in.
- **Compact & lightweight:** Mounting centers 7½" approx. size 4½" H x 7½" W x 1-13/16" D (plus Mounting Bracket). Wt. 1 lb. 6 oz.

Wico No. 27-6110



WICO'S GOT IT ALL!
(All the parts you need, anytime you need them.)

WICO
THE SOURCE